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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/551,184	09/29/2005	Gorgen Nilsson	4208-23	1850
23117 7590 08/01/2007 NIXON & VANDERHYE, PC 901 NORTH GLEBE ROAD, 11TH FLOOR ARLINGTON, VA 22203			EXAMINER YUN, JURIE	
			ART UNIT 2882	PAPER NUMBER
			MAIL DATE 08/01/2007	DELIVERY MODE PAPER

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

<b>Office Action Summary</b>	<b>Application No.</b>	<b>Applicant(s)</b>	
	10/551,184	NILSSON, GORGEN	
	<b>Examiner</b>	<b>Art Unit</b>	
	Jurie Yun	2882	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

#### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

#### Status

- 1) ☒ Responsive to communication(s) filed on 29 September 2005.
- 2a) ☐ This action is **FINAL**.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

#### Disposition of Claims

- 4) ☒ Claim(s) 1-12 and 14-18 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 1-6 and 18 is/are allowed.
- 6) ☒ Claim(s) 7-10 and 14-17 is/are rejected.
- 7) ☒ Claim(s) 11 and 12 is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

#### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

#### Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All    b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☒ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.

#### Attachment(s)

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)            | 4) <input type="checkbox"/> Interview Summary (PTO-413)           |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)   | Paper No(s)/Mail Date. _____                                      |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date <u>9/29/05 &amp; 6/13/06</u> .                                   | 6) <input type="checkbox"/> Other: _____                          |

### **DETAILED ACTION**

1. The preliminary amendment filed 9/29/05 has been entered.

#### ***Priority***

2. Receipt is acknowledged of papers submitted under 35 U.S.C. 119(a)-(d), which papers have been placed of record in the file.

#### ***Claim Objections***

3. Claims 7 and 8 are objected to because of the following informalities:

There appears to be a typo because there are two variables, one of which is "Corn" and the other is "Corrn".

The claims should be amended to recite that the various variables are "represented by" the various definitions. For example, "Cdir 'represents' or 'is' a factor correcting for..."

The claims should be written as a single sentence, therefore, the definitions should start with uncapitalized letters (ex. "The correction factor" should be "the correction factor"). Appropriate correction is required.

4. Claim 11 is objected to because of the following informalities: in line 9, there is lack of antecedence for "the patient". Appropriate correction is required.
5. Claim 14 is objected to because of the following informalities: in line 6, it appears as though "has" should be "have". Appropriate correction is required.
6. Claim 15 is objected to because of the following informalities: in line 2, it appears as though "angel" should be "angle". Appropriate correction is required.

***Claim Rejections - 35 USC § 112***

7. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

8. Claims 7 and 8 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

With respect to each of claims 7 and 8, there is no function or equation thus the limitations are indefinite.

Also, with regards to the definitions for "Cdepth" and "Cpos", the items listed in parentheses are not clear and should also not be listed in parentheses. Also, the term "etc." should not be used.

Also, claims 7 and 8 recite the limitations "the detector element n" and "the sub field f". There is insufficient antecedent basis for this limitation in the claim.

9. Claim 9 is rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. Claim 9 recites the limitations "each gantry angle projection" and "the radiation beam or sub-beams" in lines 2-4. There is insufficient antecedent basis for this limitation in the claim.

10. Claim 10 is rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. There is lack of antecedence for "the electrons" and for "the range", and it is not understood what is meant by "wherein each detector plane is

provided with detectors having a thickness in a range less than the range of the electrons of the maximum energy in the range where the dependency is significant.”

Appropriate correction is required.

11. Claims 14-17 provide for the use of a detector configuration or for use of a diode detector, but, since the claim does not set forth any steps involved in the method/process, it is unclear what method/process applicant is intending to encompass. A claim is indefinite where it merely recites a use without any active, positive steps delimiting how this use is actually practiced.

Claims 14-17 are rejected under 35 U.S.C. 101 because the claimed recitation of a use, without setting forth any steps involved in the process, results in an improper definition of a process, i.e., results in a claim which is not a proper process claim under 35 U.S.C. 101. See for example *Ex parte Dunki*, 153 USPQ 678 (Bd.App. 1967) and *Clinical Products, Ltd. v. Brenner*, 255 F. Supp. 131, 149 USPQ 475 (D.D.C. 1966).

12. Claim 14 is rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. There is lack of antecedence for “the electrons” and for “the range”, and it is not understood what is meant by “wherein said detectors has a thickness in a range less than the range of the electrons of the maximum energy in the range where the dependency is significant.”

13. Claim 15 is rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant

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regards as the invention. There is lack of antecedence for "each gantry angle projection" and for "the radiation beam or sub-beams".

14. Claim 16 is rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. There is lack of antecedence for "the electrons" and for "the range", and it is not understood what is meant by "Use of a diode detector arranged with a thickness in a range less than the range of the electrons of the maximum energy in the range where the dependency is significant in a method according to claim 1."

Appropriate correction is required.

***Allowable Subject Matter***

15. Claims 1-6 and 18 are allowed.

16. The following is an examiner's statement of reasons for allowance: Prior art fails to disclose a method of measuring dose distribution in a phantom for radiation therapy treatment verification, wherein at least two detector planes are arranged in said phantom in a non-parallel manner, each plane being provided with a plurality of diode detectors, wherein said phantom is irradiated using a patient specific treatment, comprising the steps of dividing the measurements in time-intervals, each time-interval having maximum length of approximately 100 msec, and using said information in the treatment verification, as claimed in claim 1. Claims 2-6 and 18 are allowed due to their dependency on claim 1.

17. Claims 11 and 12 would be allowable if rewritten or amended to overcome the objection set forth in this Office action.

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18. The following is a statement of reasons for the indication of allowable subject matter: Prior art fails to disclose a method of measuring dose distribution in a phantom for radiation therapy treatment verification, wherein detector planes are arranged in said phantom, each plane being provided with a plurality of diode detectors, wherein said phantom is irradiated using a patient specific treatment, comprising the steps of dividing the measurements in time-intervals, each time-interval having maximum length of approximately 100 msec, synchronizing the measurements with a respiratory cycle of a patient for which the patient specific treatment is intended, determining the dose delivered in the various phases of the respiratory cycle, and using said information in the treatment verification, as claimed in claim 11. Claim 12 is allowable due to its dependency on claim 11.

Any comments considered necessary by applicant must be submitted no later than the payment of the issue fee and, to avoid processing delays, should preferably accompany the issue fee. Such submissions should be clearly labeled "Comments on Statement of Reasons for Allowance."

### ***Conclusion***

19. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Nilsson et al. (USPN 6,712,508 B2) and Engler et al. (US 2005/0077459 A1) disclose radiation recording/phantom devices which include at least two detector planes arranged in the phantom in a non-parallel manner, however, they do not disclose the step of dividing the measurements in time-intervals, each time-interval having maximum length of approximately 100 msec.



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20. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Jurie Yun whose telephone number is 571 272-2497.

The examiner can normally be reached on Monday-Friday 8:30-5:00pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Ed Glick can be reached on 571 272-2490. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

  
Jurie Yun  
Examiner  
Art Unit 2882

July 13, 2007